



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/568,984

08/02/2006

Shigeru Nakamura

F2108.0041

8872

32172

7590

04/28/2008

DICKSTEIN SHAPIRO LLP

1177 AVENUE OF THE AMERICAS (6TH AVENUE)

NEW YORK, NY 10036-2714

EXAMINER

TRAN, HOANG Q

ART UNIT

PAPER NUMBER

2874

MAIL DATE

DELIVERY MODE

04/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,984	NAKAMURA, SHIGERU	
	Examiner	Art Unit	
	HOANG TRAN	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/09/2007, 03/10/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by 6,337,762.

In terms of Claim 1 Ueno teaches a all-optical switch characterized in comprising a first input port to which a non-return-to-zero light signal is inputted (Figure 12 [12]); a second input port to which a carrier light is inputted (Figure 12 [18]); a first (Figure 12 [14]) and second (Figure 12 [15]) light paths; a division unit for dividing the light inputted to said first and second input ports into lights paths (Figure 12 [13]); a first nonlinear optical element [10] provided to said first light path, into which one of the light signals among the light signals divided by said division unit [13] and one of the carrier lights among the carrier lights divided by said division unit are inputted, for causing the refractive index to change in nonlinear fashion according to said one light signal, and shifting the phase of said one carrier light in a nonlinear fashion; a second nonlinear optical element [11] provided to said second light path, into which the other light signal among the light signals divided by said division unit (Figure 12 [13 or 19]) and the other carrier light among the carrier lights divided by said division unit [13 or 19] are inputted, for causing the refractive index to change in nonlinear fashion according to said other

light signal, and shifting the phase of said other carrier light in a nonlinear fashion (Figure 12 [11]); An attenuation unit for attenuation said other light signal inputted to said second nonlinear optical element [42] below said one light signal inputted to said first nonlinear optical element; a delay unit for causing said other light signal to be inputted to said second nonlinear optical element after said light signal is inputted to said first nonlinear optical element [39]; a synthesizes [39] for synthesizing the light that has passed through said first and second light paths; wherein the time by which the inputting of said other signal is delay by said delay unit is shorter than the relaxation time of the nonlinear refractive index change in said first and second nonlinear optical elements [26 and 39].

As for Claim 2 Ueno teaches the device of Claim 1; characterized in that said first and second input ports are arranged so that the propagation direct of said light signal is in the opposite direction from the propagation direct of said carrier light (Figure 17 occurs at circulators 51, 52).

As for Claim 3, Ueno teaches the device of Claim 1; characterized in that said carrier light is unmodulated continuous light (Figure 17 source [31]);

As for Claim 4, Ueno teaches the device of Claim 1, characterized in that said carrier light is a clock light pulse that is synchronized with said light signal (Claim 1).

As for Claim 5, Ueno teaches the device of Claim 1, characterized in that said delay units is formed by making the length of the light path from said division unit to said second nonlinear optical element in said second light path longer than the length of the

light path from said division unit to said first nonlinear optical element in said first light path (Col 2 [20-45]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOANG TRAN whose telephone number is (571)272-5049. The examiner can normally be reached on 9:00AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ht

Application/Control Number: 10/568,984

Page 5

Art Unit: 2874

Hoang Tran

AU 2874

March 31, 2008

/Sung H. Pak/

Primary Examiner, Art Unit 2874